0570
0620 #6

OIPE

RAW SEQUENCE LISTING DATE: 07/02/2002
PATENT APPLICATION: US/10/014,717 TIME: 14:03:56

Input Set : N:\Crf3\RULE60\10014717.raw
Output Set: N:\CRF3\07022002\J014717.raw

<110> APPLICANT: Schupp, Thomas
Ligon, James
Molnar, Istvan
Zirkle, Ross
Cyr, Devon
Goerlach, Joern
<120> TITLE OF INVENTION: GENES FOR THE BIOSYNTHESIS OF EPOTHILONES
<130> FILE REFERENCE: 4-30582A
<140> CURRENT APPLICATION NUMBER: 10/014,717
<141> CURRENT FILING DATE: 2001-11-13
<150> PRIOR APPLICATION NUMBER: US/09/335,409
<151> PRIOR FILING DATE: 1999-06-17
<160> NUMBER OF SEQ ID NOS: 30
<170> SOFTWARE: PatentIn Ver. 2.0
<210> SEQ ID NO: 1
<211> LENGTH: 68750
<212> TYPE: DNA
<213> ORGANISM: Sorangium cellulosum
<400> SEQUENCE: 1

aagcttcgct cgacgccctc ttcgcccgcg ccacctctgc ccgtgtgctc gatgatggcc 60
acggccgggc cacggagcgg catgtgctcg ccgaggcgcg cgggatcgag gacctccgcg 120
ccctccgaga gcacctccgc atccaggaag gggggccgtc ctttcactgc atgtgcctcg 180
gcgacctgac ggtggagctc ctcgcgcacg accagcccct cgcgtccatc agcttccacc 240
atgcccgcag cctgaggcac cccgactgga cctcggacgc gatgctcgtc gacggccccg 300
cgctcgtccg gtggctcgcc gcgcgcggcg cgccgggtcc cctccgcgag tacgaagagg 360
agcgcgagcg agcccgaacc gcgcaggagg cgaggcgcct gtggctcgcg gccgcgccgc 420
cctgcttcgc gcccgatctg ccccgcttcg aggacgacgc caacgggctg ccgctcggcc 480
cgatgtcgcc tgaagtcgcc gaggccgagc ggcgcctccg cgcctcgtac gcgactcctg 540
agctcgcctg tgccgcgctg ctcgcctggc tcgggacggg cgcgggtccc tggtccggat 600
atcccgccta cgagatgctg ccagagaatc tgctcctcgg gtttggcctc ccgaccgcga 660
tcgccgcggc ctccgcgccc ggcacatcgg aggccgctct ccgcggcgca gcgcggctgt 720
tcgcctcctg ggaggtcgta tcgagcaaga agagccagct cggcaacatc cccgaagccc 780
tgtgggagcg gctccggacg atcgtccgcg cgatgggcaa tgccgacaac ctctctcgct 840
tcgagcgcgc cgaggcgatc gcggcggagg tgcgccgcct gcgcgcacag ccggcgccct 900
tcgcggcggg cgccggcctg gcggtcgctg gggtctcctc gagcggccgg ctctcgggcc 960
tcgtgaccga cggagacgca ttgtactccg gcgacggcaa cgacatcgtc atgttccaac 1020
ccggccggat ctcgccggtc gtgctgctcg ccggaaccga tcccttcttc gagctcgcac 1080
cgcccctcag ccagatgctc ttcgtcgcgc acgccaacgc gggcaccatc tccaaggtcc 1140
tgacggaagg cagccccctc atcgtgatgg caagaaacca ggcgcgaccg atgagcctcg 1200
tccacgctcg cgggttcatg gcgtgggtca accaggccat ggtgcccgac cccgagcggg 1260
gcgcgccctt cgtcgtccag cgctcgacca tcatggaatt cgagcacccc acgcctcgtt 1320
gtctccacga gcccgccggc agcgctttct ccctcgcctg cgacgaggag cacctctact 1380
ggtgcgagct ttcggctggc cggctcgagc tatggcgcca cccgcaccac cgccccggcg 1440

RAW SEQUENCE LISTING DATE: 07/02/2002
PATENT APPLICATION: US/10/014,717 TIME: 14:03:56

Input Set : N:\Crf3\RULE60\10014717.raw
Output Set: N:\CRF3\07022002\J014717.raw

```
48  ccccgagccg cttcgcgtac ctcggcgagc accccattgc ggcgacctgg taccctcgc 1500
49  tcaccctcaa tgcgacccac gtgctgtggg ccgaccctga tcgcagggcc atcctcgggg 1560
50  tcgacaagcg caccggcgta gagcccatcg tcctcgcgga gacgcgccat cccccggcgc 1620
51  acgtcgtgtc cgaggaccgg gacatcttcg cgcttaccgg acagcccgac tcccgcgact 1680
52  ggcacgtcga gcacatccgc tccggcgcct ccaccgtcgt ggccgactac cagcgccagc 1740
53  tatgggaccg ccctgacatg gtgctcaatc ggcgcggcct cttcttcacg acgaacgacc 1800
54  gcatcctgac gctcgcccgc agctgacatc gctcgacgcc gggccgctca tcgagggcgc 1860
55  ccggaccgag ctggcgaccc gccgctggcg ggccgcagct catgccgatt cggtggcgac 1920
56  gtagacgctg cgccagaaac gctcgagagc ccccgagaac aggaagccgg cggattgtgt 1980
57  catcacgatc ccgatcagct cgcggcccgg atcattgatc caggacgtcc cgaacccgcc 2040
58  gtcccaccca tagcgcccgg gcacctccga gaccgcgtcc ggcgccgtga ccacggccat 2100
59  cccataaccc cagccgtgcg tctcgaagaa gcccgggaaa aacgaggacg ccgccttctg 2160
60  ggccggcgtg aggtgatcgg ccgtcatctc gcgcaccgag gcggcgctca agagccgccg 2220
61  gccctcgtgc acaccgccgt tcatgagcat gcgcgcgaac aggaggtagt cgtccaccgt 2280
62  cgacacgagc ccggcggcgc ccgaagggaa cgccggcggg ctggcatagg cgctctcggc 2340
63  cccgtcgcga tccatgcgcg tcttctcccc cgtctgctcg tcggtgaagt aaccgcagcc 2400
64  cgcgaaccga gcgagcttgt ccgccgggac gtgaaagtcg gtgtcccgca tcccgagcgg 2460
65  cgcgaggatg cgctcgcgca cgaacgcatc gaagccctgg tcggccgcgc gccccacgag 2520
66  caccccctgc accaggctcc ccgtgttgta catccactgc gcccccggct gatgcatgag 2580
67  cggcagcgtc ccgagccgcc ggatccactc gtctggcccg tgcggcgtca tcggcaccgg 2640
68  ctgcgcgttg acgagcccga gctcgtcgat ggcccgctgg atcggcgacg atgcgtcgaa 2700
69  cgagattccg aagcccatcg tgaacgtcat caggtcgcgc accgtgatcg gccgctccgc 2760
70  gggcaccgtc tcgtcgatcg gaccatcgat gcgcgccagc accttccggt tcgcgagctc 2820
71  cggcaaccat cggtcgacgg gggagtcgag gtcgagcttg ccttcctcga cgagcatcat 2880
72  caccgccgtc gcggtgaccg ccttcgtcat cgaggcgatc cggaagatcg tgtcccgccg 2940
73  catgggcgcg ctgccgccga gctcggtcac gcccaccgcg tccacgtgca cgtcgtcgcc 3000
74  gcgcgcgacc agccagaccg ctcccggcat ctgccccgcc gccacctccg ccgccatcac 3060
75  ctcgcgcgcg ggcgccagcg cgccggcccc cgcgtcctgc cctggctgcc cctcctcctc 3120
76  ggccccaccc aacgcgcacc ccggcgccgc cacgctgatc aaagctccca taaactcccg 3180
77  ccttctcatg accgtcgatg cctctccgag cgggggcgcc tgcccctgcc gagagcactg 3240
78  actgcccgcg cccgaaaaaa tcatcggtgc cccgtcacga tcgccgccgg gcgtggctcc 3300
79  gcccggccgc ccgctcgggc gcccgccccc ggacgagcaa agctcgcccg cccgcgctca 3360
80  gcacgccgct tgccatgtcc ggcctgcacc cacaccgagg agccacccac cctgatgcac 3420
81  ggcctcaccg agcggcaggt cctgctctcg ctcgtcaccc tcgcgctcat cctcgtgacc 3480
82  gcgcgcgcct ccggcgagct cgcgcggcgg ctgcgccagc ccgaggtgct cggggagctc 3540
83  ttcggcggcg tcgtgctggg cccctccgtc gtcggcgcgc tcgcgcccgg gttccatcga 3600
84  gccctcttcc aggagccggc ggtcggggtc gtgctctcgg gcatctcctg gataggcgcg 3660
85  ctcctcctgc tgctgatggc gggcatcgag gtcgacgtgg gcatcctgcg caaggaggcg 3720
86  cgccccgggg cgctctcggc gctcggcgcg atcgcgcccc cgctcgcggc gggcgccgcc 3780
87  ttctcggcgc tcgtgctcga tcggcccctt ccgagcggcc tcttcctcgg gatcgtgctc 3840
88  tcggtgacgg cggtcagcgt gatcgcgaag gtgctgatcg agcgcgagtc gatgcgccgc 3900
89  agctatgcgc aggtgacgct cgcggcgggg gtggtcagcg aggtcgctgc ctgggtgctc 3960
90  gtcgcgatga cgtcgtcgag ctacggcgcg tcgcccgcgc tggcggtcgc ccggagcgcg 4020
91  ctcctggcga gcggattctt gctgttcatg gtgctcgtcg ggcggcggct cacccacctc 4080
92  gcgatgcgct gggtggccga cgcgacgcgc gtctccaagg gacaggtgtc gctcgtcctc 4140
93  gtcctcacgt tcctggccgc ggcgctgacg cagcggctcg gcctgcaccc gctgctcggc 4200
94  gcgttcgcgc tcggcgtgct gctcaacagc gctcctcgca ccaaccgccc tctcctcgac 4260
95  ggcgtgcaga cgctcgtggc gggcctcttc gcgcctgtgt tcttcgtcct cgcgggcatg 4320
96  cgcgtcgacg tgtcgcagct gcgcacgccg gcggcgtggg ggacggtcgc gttgctgctg 4380
```

RAW SEQUENCE LISTING DATE: 07/02/2002
PATENT APPLICATION: US/10/014,717 TIME: 14:03:56

Input Set : N:\Crf3\RULE60\10014717.raw
Output Set: N:\CRF3\07022002\J014717.raw

97 gcgaccgcga cggcggcgaa ggtcgtcccc gccgcgctcg gcgcgcggct cggcgggctc 4440
98 aggggcagcg aggcggcgct cgtggcggtg ggcctgaaca tgaagggcgg cacggacctc 4500
99 atcgtcgcga tcgtcggcgt cgagctcggg ctcctctcca acgaggctta tacgatgtac 4560
100 gccgtcgtcg cgctggtcac ggtgaccgcc tcacccgcgc tcctcatctg gctcgagaaa 4620
101 agggcgcctc cgacgcagga ggagtcggct cgcctcgagc gcgaggaggc cgcgaggcgc 4680
102 gcgtacatcc ccggggtcga gcggatcctc gtcccgatcg tggcgcacgc cctgcccggg 4740
103 ttcgccacgg acatcgtgga gagcatcgtc gcctccaagc gaaagctcgg cgagacggtc 4800
104 gacatcacgg agctctccgt ggagcagcag gcgcccggcc catcgcgcgc cgcgggggag 4860
105 gcgagccggg ggctcgcgag gctcggcgcg cgcctccgcg tcggcatctg gcggcaaagg 4920
106 cgcgagctgc gcggctcgat ccaggcgatc ctgcgcgcct cgcgggatca cgatctgctc 4980
107 gtgatcggcg cgcgatcgcc ggcgcgcgcg cgcggaatgt cgttcggtcg cctgcaggac 5040
108 gcgatcgtcc agcgggccga gtccaacgtg ctcgtcgtgg tgggcgaccc tccggcggcg 5100
109 gagcgcgcct ccgcgcggcg gatcctcgtc ccgatcatcg gcctcgagta ctccttcgcc 5160
110 gccgccgatc tcgcggccca cgtggcgctg gcgtgggacg ccgagctcgt gctgctcagc 5220
111 agcgcgcaga ccgatccggg cgcggtcgtc tggcgcgatc gcgagccatc ccgggtgcgc 5280
112 gcggtggcgc ggagcgtcgt cgacgaggcg gtcttccggg ggcgccggct cggcgtgcgc 5340
113 gtctcgtcgc gcgtgcacgt gggcgcgcac ccgagcgacg agataacgcg ggagctcgcg 5400
114 cgcgccccgt acgatctgct cgtgctcgga tgctacgacc atgggccgct cggccggctc 5460
115 tacctcggca gcacggtcga gtcggtggtg gtccggagcc gggtgccggt cgcgttgctc 5520
116 gtcgcgcatg gagggactcg agagcaggtg aggtgaggct tccaccgcgc tcgcccgtga 5580
117 ggaagcgagc gcccggctct gccgacgatc gtcactcccg gtccgtgtag gcgatcgtgc 5640
118 tgagcagcgc gttctccgcc tgacgcgagt cgagccgggt atgctgcacg acgatggggg 5700
119 cgtccgattc gatcacgctg gcatagtccg tatcgcgcgg gatcggctcg ggttcggtca 5760
120 gatcgttgaa ccggacgtgc cgggtgcgcc tcgctggaac ggtcacccgg taaggcccgg 5820
121 cggggtcgcg gtcgctgaag taaacggtga tggcgacctg cgcgtcccgg tccgacgcat 5880
122 tcaacaggca ggccgtctca tggctcgtca tctgcggctc aggtccgttg ctcccgcctg 5940
123 ggatgtagcc ctctgcgatt gcacagcgcg tccgcccgat cggcttgtcc atgtgtcctc 6000
124 cctcctggct cctctttggc agcctccctc tgctgtccag gagcgatggc ctcttcgctc 6060
125 gacgcgctcg gggatccatg gctgaggatc ctcgccgagc gctccctgcc gaccggcgcg 6120
126 ccgagcgccg acgggctttg aaagcgcgcg accggccagc ccggacgcgg gcccgagagg 6180
127 gacagtgggt ccgccgtgaa gcagagaggc gatcgaggtg gtgagatgaa acacgtcgac 6240
128 acgggccgac gattcggccg ccggataggg cacacgctcg gtcttctcgc gagcatggcg 6300
129 ctcgccggct gcggcggtcc gagcgagaaa accgtgcagg gcacgcggct cgcgcccggc 6360
130 gccgatgcgc gcgtcaccgc cgacgtcgac cccgacgccg cgaccacgcg gctggcggtg 6420
131 gacgtcgttc acctctcgcc gcccgagcgg ctcgaggccg gcagcgagcg gttcgtcgtc 6480
132 tggcagcgtc cgagccccga gtccccgtgg cgacgggtcg gagtgctcga ctacaatgct 6540
133 gacagccgaa gaggcaagct ggccgagacg accgtgccgt atgccaactt cgagctgctc 6600
134 atcaccgccg agaagcagag cagccctcag tcgccatcgt ctgccgccgt catcgggccg 6660
135 acgtctgtcg ggtgacatcg cgctatcagc agcgctgagc ccgccagcag gccccagggc 6720
136 cctgcctcga tggccttccc catcacccct gcgcactcct ccagcgacgg ccgcgcagcg 6780
137 acggccgcgt ccaagcaacc gccgtgccgg cgcggctcca cgcgcgcgac aggcgagcgt 6840
138 cctggcgcgg cctgcgcatc gctggaagga tcggcggagc atggatagag aatcgaggat 6900
139 cgcgatcttt gttgccatcg cagccaacgt ggcgatcgcg gcggtcaagt tcatcgccgc 6960
140 cgccgtgacc ggcagctcgg cgaggcgttt gccgacttcg gcggcgtccc gcgcgtgctg 7020
141 ctctacgaca acctcaagag cgccgtcgtc gagcgccacg gcgacgcgat ccggttccac 7080
142 cccacgctgc tggctctgtc ggcgcattac cgcttcgagc cgcgccccgt cgccgtcgcc 7140
143 cgcggcaacg agaagggccg cgtccagcgc gccatcacgg cgtggacgac atggcgcgga 7200
144 aacgtcgtcg taaccgccca gcaatgtcat gggaatggcc ccttgaaatg gccccttgag 7260
145 ggggctggcc ggggtcgacg atatcgcgcg atctccccgt caattcccga tggtaaaaga 7320

RAW SEQUENCE LISTING DATE: 07/02/2002
PATENT APPLICATION: US/10/014,717 TIME: 14:03:56

Input Set : N:\Crf3\RULE60\10014717.raw
Output Set: N:\CRF3\07022002\J014717.raw

```
146  aaaatttgtc atagatcgta agctgtgata gtggtctgtc ttacgttgcg tcttccgcac 7380
147  ctcgagcgag ttctctcgga taactttcaa tttttccgag gggggcttgg tctctggttc 7440
148  ctcaggaagc ctgatcggga cgagctaatt cccatccatt tttttgaggc tctgctcaaa 7500
149  gggattagat cgagtgagac agttcttttg cagtgcgcga agaacctggg cctcgaccgg 7560
150  aggacgatcg acgtccgcga gcgggtcagc cgctgaggat gtgcccgtcg tggcggatcg 7620
151  tcccatcgag cgcgcagccg aagatccgat tgcgatcgtc ggagcgagtt gccgtctgcc 7680
152  cggtggcgtg atcgatctga gcgggttctg gacgctcctc gagggctcgc gcgacaccgt 7740
153  cgggcgagtc cccgccgaac gctgggatgc agcagcgtgg tttgatcccg accccgatgc 7800
154  cccggggaag acgcccgtta cgcgcgcatc tttcctgagc gacgtagcct gcttcgacgc 7860
155  ctccttcttc ggcatctcgc ctcgcgaagc gctgcggatg gaccctgcac atcgactctt 7920
156  gctggaggtg tgctgggagg cgctggagaa cgccgcgatc gctccatcgg cgctcgtcgg 7980
157  tacggaaacg ggagtgttca tcgggatcgg cccgtccgaa tatgaggccg cgctgccgca 8040
158  agcgacggcg tccgcagaga tcgacgctca tggcgggctg gggacgatgc ccagcgtcgg 8100
159  agcgggccga atctcgtatg ccctcgggct gcgagggccg tgtgtcgcgg tggatacggc 8160
160  ctattcgtcc tcgctggtgg ccgttcatct ggcctgtcag agcttgcgct ccggggaatg 8220
161  ctccacggcc ctggctggtg gggtatcgct gatgttgtcg ccgagcaccc tcgtgtggct 8280
162  ctcgaagacc cgggcgctgg ccagggacgg tcgctgcaag gcattttcgg cggaggccga 8340
163  tgggttcgga cgaggcgaag ggtgcgccgt cgtggtcctc aagcggctca gtggagcccg 8400
164  cgcggacggc gatcggatat tggcggtgat tcgaggatcc gcgatcaatc acgacggtgc 8460
165  gagcagcggt ctgaccgtgc cgaacgggag ctcccaagaa atcgtgctga aacgggccct 8520
166  ggcggacgca ggctgcgccg cgtcttcggt gggttatgtc gaggcacacg gcacgggcac 8580
167  gacgcttggt gaccccatcg aaatccaagc tctgaatgcg gtatacggcc tcgggcgaga 8640
168  tgtcgccacg ccgctgctga tcgggtcggt gaagaccaac cttggccatc ctgagtatgc 8700
169  gtcggggatc actgggctgc tgaaggtcgt cttgtccctt cagcacgggc agattcctgc 8760
170  gcacctccac gcgcaggcgc tgaacccccg gatctcatgg ggtgatcttc ggctgaccgt 8820
171  cacgcgcgcc cggacaccgt ggccggactg gaatacgccg cgacgggcgg gggtgagctc 8880
172  gttcggcatg agcgggacca acgcgcacgt ggtgctggaa gaggcgccgg cggcgacgtg 8940
173  cacaccgccg gcgccggagc gaccggcaga gctgctggtg ctgtcggcaa ggaccgcgtc 9000
174  agccctggat gcacaggcgg cgcggctgcg cgaccatctg gagacctacc cttcgcagtg 9060
175  tctgggcgat gtggcgttca gtctggcgac gacgcgcagc gcgatggagc accggctcgc 9120
176  ggtggcggcg acgtcgaggg aggggctgcg ggcagccctg gacgctgcgg cgcagggaca 9180
177  gacgtcgccc ggtgcggtgc gcagtatcgc cgattcctca cgcggcaagc tcgcctttct 9240
178  cttcaccgga caggggcgc agacgctggg catgggccgt gggctgtacg atgtatggtc 9300
179  cgcgttccgc gaggcgttcg acctgtgcgt gaggctgttc aaccaggagc tcgaccggcc 9360
180  gctccgcgag gtgatgtggg ccgaaccggc cagcgtcgac gccgcgctgc tcgaccagac 9420
181  agccttcacc cagccggcgc tgttcacctt cgaatatgcg ctcgccgcgc tgtggcggtc 9480
182  gtggggtgta gagccggagt tggtcgccgg ccatagcatc ggtgagctgg tggctgcctg 9540
183  cgtggcgggc gtgttctcgc ttgaggacgc ggtgttcctg gtggctgcgc gcgggcgcct 9600
184  gatgcaggcg ctgccggccg gcggggcgat ggtgtcgatc gaggcgccgg aggccgatgt 9660
185  ggctgctgcg gtggcgccgc acgcagcgtc ggtgtcgatc gccgcggtca acgctccgga 9720
186  ccaggtggtc atcgcgggcg ccgggcaacc cgtgcatgcg atcgcggcgg cgatggccgc 9780
187  gcgcggggcg cgaaccaagg cgctccacgt ctcgcatgcg ttccactcac cgctcatggc 9840
188  cccgatgctg gaggcgttcg ggcgtgtggc cgagtcggtg agctaccggc ggccgtcgat 9900
189  cgtcctggtc agcaatctga gcgggaaggc ttgcacagac gaggtgagct cgccgggcta 9960
190  ttgggtgcgc cacgcgcgag aggtggtgcg cttcgcggat ggagtgaagg cgctgcacgc 10020
191  ggccggtgcg ggcaccttcg tcgaggtcgg tccgaaatcg acgctgctcg gcctggtgcc 10080
192  tgcctgcatg ccggacgccc ggccggcgct gctcgcatcg tcgcgcgctg ggcgtgacga 10140
193  gccggcgacc gtgctcgagg cgctcggcgg gctctgggcc gtcggtggcc tggtctcctg 10200
194  ggccggcctc ttcccctcag gggggcggcg ggtgccgctg cccacgtacc cttggcagcg 10260
```

RAW SEQUENCE LISTING DATE: 07/02/2002
PATENT APPLICATION: US/10/014,717 TIME: 14:03:56

Input Set : N:\Crf3\RULE60\10014717.raw
Output Set: N:\CRF3\07022002\J014717.raw

195 cgagcgctac tggatcgaca cgaaagccga cgacgcggcg cgtggcgacc gccgtgctcc 10320
196 gggagcgggt cacgacgagg tcgaggaggg gggcgcggtg cgcggcggcg accggcgcag 10380
197 cgctcggctc gaccatccgc cgcccgagag cggacgccgg gagaaggtcg aggccgccgg 10440
198 cgaccgtccg ttccggctcg agatcgatga gccaggcgtg cttgatcacc tcgtgcttcg 10500
199 ggtcacggag cggcgcgccc ctggtctggg cgaggtcgag atcgccgtcg acgcggcggg 10560
200 gctcagcttc aatgatgtcc agctcgcgct gggcatggtg cccgacgacc tgccgggaaa 10620
201 gcccaaccct ccgctgctgc tcggaggcga gtgcgccggg cgcatcgtcg ccgtgggcga 10680
202 gggcgtgaac ggcctcgtgg tgggccaacc ggtcatcgcc ctttcggcgg gagcgtttgc 10740
203 tacccacgtc accacgtcgg ctgcgctggt gctgcctcgg cctcaggcgc tctcggcgat 10800
204 cgaggcggcc gccatgcccg tcgcgtacct gacggcatgg tacgcgctcg acagaatagc 10860
205 ccgccttcag ccgggggagc gggtgctgat ccatgcggcg accggcgggg tcggtctcgc 10920
206 cgcggtgcag tgggcgcagc acgtgggagc cgaggtccat gcgacggccg gcacgcccga 10980
207 gaaacgcgcc tacctggagt cgctgggcgt gcggtatgtg agcgattccc gctcggaccg 11040
208 gttcgtcgcc gacgtgcgcg cgtggacggg cggcgaggga gtagacgtcg tgctcaactc 11100
209 gctctcgggc gagctgatcg acaagagttt caatctcctg cgatcgcacg gccggtttgt 11160
210 ggagctcggc aagcgcgact gttacgcgga taaccagctc gggctgcggc cgttcctgcg 11220
211 caatctctcc ttctcgctgg tggatctccg ggggatgatg ctcgagcggc cggcgcgggt 11280
212 ccgtgcgctc ttggaggagc tcctcggcct gatcgcggca ggcgtgttca cccctccccc 11340
213 catcgcgacg ctcccgatcg cccgtgtcgc cgatgcgttc cggagcatgg cgcaggcgca 11400
214 gcatcttggg aagctcgtac tcacgctggg tgacccggag gtccagatcc gtattccaac 11460
215 ccacgcaggc gccggcccgt ccaccgggga tcgggacctg ctcgacaggc tcgcgtcagc 11520
216 tgcgccggcc gcgcgcgcgg cggcgctgga ggcgttcctc cgtacgcagg tctcgcaggt 11580
217 gctgcgcacg cccgaaatca aggtcggcgc ggaggcgctg ttcacccgcc tcggcatgga 11640
218 ctcgctcatg gccgtggagc tgcgcaatcg tatcgaggcg agcctcaagc tgaagctgtc 11700
219 gacgacgttc ctgtccacgt cccccaatat cgccttgttg gcccaaaacc tgttggatgc 11760
220 tctcgccaca gctctctcct tggagcgggt ggcggcggag aacctacggg caggcgtgca 11820
221 aaacgacttc gtctcatcgg gcgcagatca agactgggaa atcattgccc tatgacgatc 11880
222 aatcagcttc tgaacgagct cgagcaccag ggtatcaagc tggcggccga tggggagcgc 11940
223 ctccagatac aggcccccaa gaacgccctg aacccgaacc tgctcgctcg aatctccgag 12000
224 cacaaaagca cgatcctgac gatgctccgt cagagactcc ccgcagaatc catcgtgccc 12060
225 gccccagccg agcggcacgc tccgtttcct ctcacagaca tccaagaatc ctactggctg 12120
226 ggccggacag gagcgtttac ggtccccagc gggatccacg cctatcgcga atacgactgt 12180
227 acggatctcg acgtgccgag gctgagccgc gcctttcgga aagtcgtcgc gcggcacgac 12240
228 atgcttcggg cccacacgct gcccgacatg atgcaggtga tcgagcctaa agtcgacgcc 12300
229 gacatcgaga tcatcgatct gcgcgggctc gaccggagca cacgggaagc gaggctcgtg 12360
230 tcgttgcgag atgcgatgtc gcaccgcatc tatgacaccg agcgccctcc gctctatcac 12420
231 gtcgtcgccg ttcggctgga cgagcggcaa acccgtctcg tgctcagtat cgatctcatt 12480
232 aacgttgacc taggcagcct gtccatcatc ttcaaggact ggctcagctt ctacgaagat 12540
233 cccgagacct ctctccctgt cctggagctc tcgtaccgcg attatgtact cgcgctggag 12600
234 tctcgcaaga agtctgaggc gcatcaacga tcgatggatt actggaagcg gcgcatcgcc 12660
235 gagctcccac ctccgccgac gcttccgatg aaggccgatc catctaccct gaaggagatc 12720
236 cgcttccggc acacggagca atggctgccg tcggactcct ggggtcgatt gaagcggcgt 12780
237 gtcggggagc gcgggctgac cccgacgggc gtcatcctgg ctgcattttc cgaggtgatc 12840
238 gggcgctgga gcgcgagccc ccggtttacg ctcaacataa cgctcttcaa ccggctcccc 12900
239 gtccatccgc gcgtgaacga tatcaccggg gacttcacgt cgatggtcct cctggacatc 12960
240 gacaccactc gcgacaagag cttcgaacag cgcgctaagc gtattcaaga gcagctgtgg 13020
241 gaagcgatgg atcactgcga cgtaagcggt atcgaggtcc agcgagaggc cgcccgggtc 13080
242 ctggggatcc aacgaggcgc attgttcccc gtggtgctca cgagcgcgct taaccagcaa 13140
243 gtcgttggtg tcacctcgtt gcagaggctc ggaactccgg tgtacaccag cacgcagact 13200

VERIFICATION SUMMARY DATE: 07/02/2002
PATENT APPLICATION: US/10/014,717 TIME: 14:03:57

Input Set : N:\Crf3\RULE60\10014717.raw
Output Set: N:\CRF3\07022002\J014717.raw